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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,657	11/25/2003	Siddhartha Panda	FIS920030133US1	7420
28264 7590 01/18/2008 BOND, SCHOENECK & KING, PLLC ONE LINCOLN CENTER SYRACUSE, NY 13202-1355			EXAMINER VINH, LAN	
			ART UNIT	PAPER NUMBER
			1792	
			NOTIFICATION DATE	DELIVERY MODE
			01/18/2008	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

bskpto@bsk.com  
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dnocilly@bsk.com

## Office Action Summary

Application No.

10/721,657

Applicant(s)

PANDA ET AL.

Examiner

Lan Vinh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 11-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/21/2007 has been entered.

### *Response to Arguments*

2. The Applicants argue that a mask is not a filter as that term is understood and used in the present application since a mask is simply a stencil that creates a pattern of presence or absence, while a filter selects what is allowed to pass and thus attenuates what is being passed. This argument has been fully considered but they are not persuasive because it is noted that in paragraph 0030 of the instant specification, the applicants disclose "[0030] Referring to Fig. 1, plasma etch system 10 further includes **a filter or mask** 50 ". It is also noted that according to the MPEP section 2111 [R-5]

Claim Interpretation; Broadest Reasonable Interpretation

**CLAIMS MUST BE GIVEN THEIR BROADEST REASONABLE INTERPRETATION**

During patent examination, the pending claims must be "given their broadest reasonable interpretation consistent with the specification." >The Federal Circuit's en banc decision in Phillips v. AWH Corp., 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005)

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expressly recognized that the USPTO employs the “broadest reasonable interpretation” standard. Thus a mask, as best understood based on the instant specification, reads on the claimed filter

The applicants argue that the structure identified by the Examiner in Baselmans does not have a first non-zero transmittance and a second non-zero transmittance that is different than the first, as required in amended claim 11. This argument is moot in view of the new ground of rejection, as set forth below, based on O'Neill since O'Neill discloses “a graded mask 71 having variable areas 78, 79 permitting a smaller percentage of UV light transmission to reach the underlying layer, variable area 78 limits the transmission of UV light more than in area 79” (col 8, lines 5-15), which reads on a mask/claimed filter comprises a first non-zero transmittance and a second non-zero transmittance that is different than the first

The applicants argue that the modification to combine Baselman and Matheis proposed by the Examiner has nothing to do with minimizing scattered light since Matheis specifically discloses that it is the step of minimizing the distance between the optical filter and the detector that minimizes scattered light (and the construction of the detector) not the construction of the filter; accordingly, the motivation relied on by the Examiner is for something else entirely. This argument has been fully considered and is not persuasive. However, upon further consideration, a new ground(s) of rejection is made in view of O'Neill and Matheis as set forth below

***Claim Rejections - 35 USC § 102***

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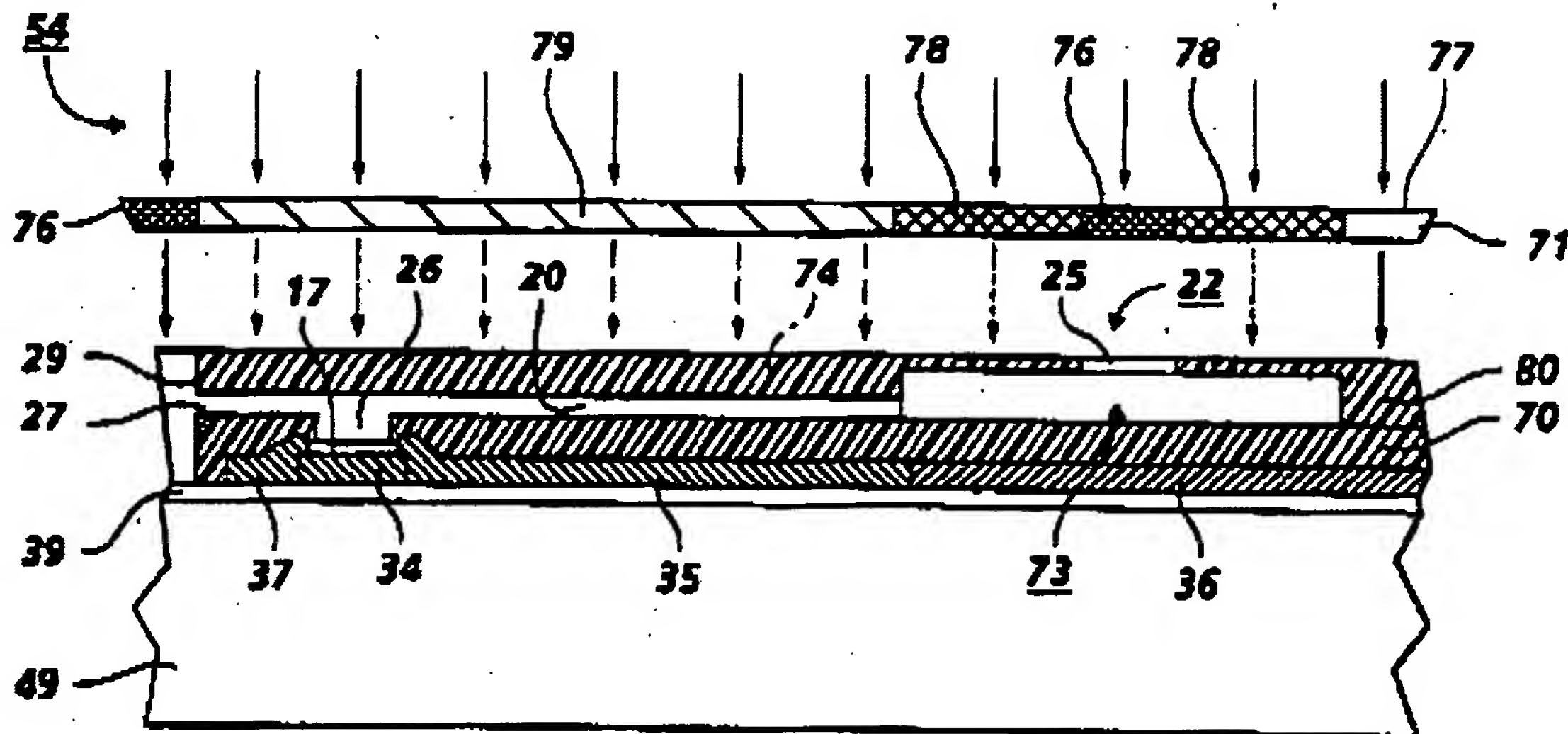
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-15 are rejected under 35 U.S.C. 102(b) as being anticipated by O'Neill (US 5,686,224)

O'Neill discloses a graded mask 71, the graded mask 71 having variable areas 78, 79 permitting a smaller percentage of UV light transmission to reach the underlying layer, variable area 78 located /first region limits the transmission of UV light more than in area 79/second region so that the depth of reaction in the PR 80 is less under area 78 than under area 79 (col 8, lines 5-15, fig. 9), which reads on a mask/claimed filter comprises a first non-zero transmittance (lower) and a second non-zero transmittance that is different (higher) than the first



**FIG. 9**

Variable areas 78 and 79 in the graded mask permits a smaller percentage of UV light transmission to reach the photoresist 80 and control the depth of the UV light penetration into the photoresist thereby provides photoresist 80 with a profile having a varying depth. Graded or variable area 78 limits the transmission of UV light more than in area 79, so that the depth of reaction in the photo resist 80 is less under area 78 than under area 79. After creating the latent image in photoresist layer 80, the photoresist is baked at about 100° C. for around ten minutes to reduce its solubility.

It is noted that the claim language “for reducing non-uniformities in a plasma etching” is a preamble statement reciting intended use. II. < PREAMBLE STATEMENTS

## RECITING PURPOSE OR INTENDED USE

The claim preamble must be read in the context of the entire claim. The determination of whether preamble recitations are structural limitations or mere statements of purpose or use “can be resolved only on review of the entirety of the [record] to gain an understanding of what the inventors actually invented and intended to encompass by the claim.” *Corning Glass Works*, 868 F.2d at 1257, 9 USPQ2d at 1966. If the body of a



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claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction.

Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999). See also Rowe v. Dror, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997)

Regarding claim 12, fig. 9 of O'Neill shows region 78/first region comprises a perimeter of mask/filter 71, region 79/second region comprises a center portion of the mask/filter 71

Regarding claim 14, fig. 1 of O'Neill shows that the mask 71/filter having the peripheral region 78/first region and center region 79/second region aligned over circular-shaped wafer 49 which reads on the first region and second region are eccentric

Regarding claim 15, since O'Neill discloses the same filter having the same first and second regions for transmittance as the claimed filter under the principle of inherency, positioning O'Neill second region would have inherently reduced transmission in areas where said plasma etching process experiences magnetic field cusping. It is noted that the claim language of "to reduce transmission in areas where said plasma etching process experiences magnetic field cusping" is functional claim language. APPARATUS

CLAIMS MUST BE STRUCTURALLY DISTINGUISHABLE FROM THE PRIOR ART

>While features of an apparatus may be recited either structurally or functionally, claims directed to >an apparatus must be distinguished from the prior art in terms of structure

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rather than functional >In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) (The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed apparatus because the limitations at issue were found to be inherent in the prior art reference); see also In re Swinehart, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971); In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). "[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Campi et al (US 6,569,580)

Campi discloses a mask/claimed filter having layer 700/first region with transmissivity T2/first transmittance, where T2 can be at any desired transmissivity from 0% to 100 % and layer 600/second region first region with transmissivity T1/second transmittance, where T1 can be at any desired transmissivity from 0% to 100 % (col 12, lines 29-40; fig. 8). One skilled in the art at the time the invention was made would have found it



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obvious to vary Campi T2/first transmittance and T1/second transmittance to obtain any desired non-zero transmittance within the desired range taught by Campi

3. Claims 16-17 rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neill (US 5,686,224f) in view of Mathies et al (US 6,867,420)

O'Neill filter has been described above. Unlike the instant claimed inventions as per claims 16-17, O'Neill fails to disclose that the filter comprises optical quality glass having a layer of metallic coating of a predetermined thickness, the thickness of said layer of metallic coating varies from the first to the second region

Mathies discloses an optical system comprises a metallic coating having a thickness on a glass substrate to minimize effect of laser scattered light (col 4, lines 45-55; fig. 4)

Since O'Neill discloses variable area 78 located /first region limits the transmission of UV light more than in area 79/second region, as discussed above, ones skilled in the art would have found it obvious to modify O'Neill mask/filter by forming a metallic coating of a predetermined thickness, as taught by Mathies, the thickness of said layer of metallic coating varies from the first to the second region to more effectively limits the transmission of UV light/scattered light in the area 78/first region

### ***Conclusion***

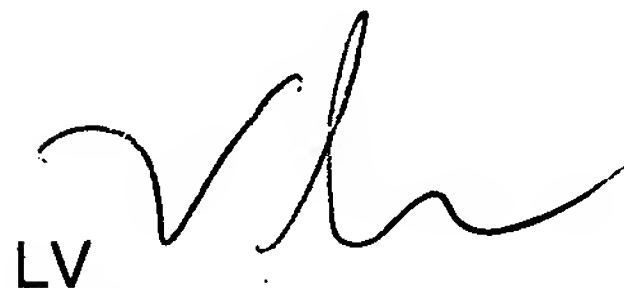
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lan Vinh whose telephone number is 571 272 1471.

The examiner can normally be reached on M-F 8:30-5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571 272 1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to be 'LV' followed by a stylized flourish.

January 14, 2008